

## EROSION AND SEDIMENT CONTROL PLAN

### **PURPOSE AND APPLICATION**

The erosion control plan must be prepared before construction begins, ideally during the project planning and design phases. The erosion control plan shall be submitted with the grading plan as required by the department and any local ordinances or be prepared as part of the general permit under MEPDES.

### **CONSIDERATION**

A plan must be approved prior to the commencement of any work and include all necessary temporary and permanent erosion control measures, including those to be followed should the work stop at any time during the winter season. If the grading permit allows work to be done during and over winter (September 15 to April 15), the permit may require a **winter construction** operating and erosion control plan.

If the site or portion of the site is planned to be idle for more than 30 days, then mulching or vegetative stabilization must be accomplished within seven days. The winter construction plan should include a plan for the immediate (within 24 hours of the first forecast of a storm front) installation of emergency erosion control measures.

### **SPECIFICATIONS**

The Erosion control plan should consist of three parts:

#### **1. A narrative**

- a brief description of the proposed land-disturbing activities, existing site conditions (including soil and vegetation), and adjacent areas (such as streams, wetlands, property lines and buildings) that might be affected by the proposed clearing and grading;
- a description of critical areas on the site - areas that have a potential for serious erosion problems, including the name, location and aerial extent of moderate and highly erodible soils and slopes on the project site;
- the date grading will begin and the expected date of stabilization;
- a brief description of the measures that will be used to control erosion and sedimentation on the site; and when these measures will be implemented;
- a description of an inspection and maintenance program, with provisions for frequency of inspection, repair and reconstruction of damaged structures, cleanout and disposal of trapped sediment, duration of maintenance program, and final disposition of the measures when site work is complete;
- A brief description of any substantial timber harvesting and associated road construction or other earthwork in the past five years.

#### **2. A map showing**

- site contours at sufficient interval and scale to identify runoff patterns before and after disturbance;
- final contours;
- limits of clearing and grading;
- existing buffers and vegetated areas in a condition that will effectively reduce erosion or off-site sedimentation;
- all critical areas within or near the project site, such as streams, lakes, wetlands, or the aerial extent of erodible soils;
- the location and types of erosion and sediment control measures, including the aerial extent of vegetative treatments;
- location/extent of timber harvesting and associated road construction or other earthwork in the past five years.

#### **3. Plan details**

- detailed drawings of erosion and sediment control structures and measures, showing dimensions, materials, and other important details;
- design criteria and calculations such as design particle size for sediment basins and peak discharge for channel design and outlets;
- seeding or vegetative specifications;
- inspection and maintenance notes;
- a description and design information regarding how pre-existing conditions resulting from past land uses leading to erosion and/or sedimentation will be corrected as part of the overall design.

**The narrative and details should be placed on the Erosion Control Plan map if possible.**

## PLAN CHECKLIST

It is not the responsibility of the plan reviewer to ensure that the plan is appropriate for the level of work suggested by the proposed project. The reviewer can only ensure that the plan meets the minimum standards set by the department and/or other authorizing ordinance.

Communications: Encourage informal communications between the plan reviewer and the plan preparer. This will enable the reviewer to make informal suggestions that may save money and time, and it may result in a better, more effective plan. It will also enable the preparer to explain and justify the plan.

Incomplete Plans: Seriously incomplete plans will not be reviewed but will be sent back with a request for the missing information.

Required Information: Make sure all the required information has been submitted. A checklist can be used; however, having everything checked off does not necessarily mean that everything is in order.

Plan Concept: The concept should be examined first, starting with the general and moving to the specific. Does the plan make sense?

Schedule: Examine the construction schedule. Will grading be completed before the winter weather season? When will storm drainage facilities, paving, and utilities be installed in reference to the wet weather season? If grading will take place during months when there is a high probability of heavy rains, what extra precautions will be taken to protect against erosion, sedimentation, and changing drainage patterns (Is a winter construction plan necessary)?

Minimize Disturbance: Does the plan show areas that are not to be disturbed? Native vegetation should be retained to the maximum degree possible and stream buffer areas should be designated on the plan and flagged in the field. A well-conceived erosion control plan will minimize erosion by attempting to minimize disturbance and retain natural vegetation. A phased approach to development can assure that the extent and timing of grading does not exceed the contractor's ability to perform erosion and sediment control.

Site Drainage: Make sure you understand where all drainage comes from on and above the site, where it goes, and how it traverses the site. For large sites, prepare a drainage area map.

Sediment Basins and Traps: Locate all sediment basins and traps and define their tributary areas.

Erosion Control: Check the method used to prevent erosion. Hydraulic seeding and mulching may adequately stabilize some areas, but other areas, because of their proximity to sensitive features such as watercourses, or their steepness and erosive soil, may need far more intensive revegetation efforts. On steep and critical slopes, a reliable backup system such as erosion control mix or erosion control blankets is strongly recommended.

Channels and Outlets: Examine all drainageways where concentrated flows will occur. Be sure adequate erosion protection is provided both along channels and at channel and pipe outlets. Check the sources of runoff to be sure that all the runoff comes from undisturbed or stabilized areas or has been desilted by sediment basins or other sediment retention devices.

Miscellaneous: Look for haul roads, stockpile areas, and borrow areas. They are often overlooked and can have a substantial effect on drainage patterns. Have construction or access roads been surfaced with rock, as a minimum treatment, before the rainy season? Look at all points of vehicle access to the site and be sure mud and soil will not be tracked onto paved streets and that sediment-laden runoff will not escape from the site at these points. Pay particular attention to watercourses and their protection.

Plan Details: Once the plan concept has been shown to be adequate, check the details to be sure the concept is adequately described in the plans.

Structural Details: Be sure that sufficiently detailed drawings of each structure (sediment basin, dike, ditch, silt fence, etc.) are included so there is no doubt about location, dimensions, or method of construction.

Calculations: Determine if calculations have been submitted to support the capacity and structural integrity of all structures. Were the calculations made correctly? Non-engineered structures, such as straw bale barriers, do not generally need hydrologic calculations, however, supporting information such as drainage area and peak flow should be available if requested.

Vegetation: Review seed, fertilizer, and mulch specifications. Check quantities and methods of application to be sure they are appropriate and consistent with local guidelines. Are there stipulations so that ineffective revegetation and/or damage can be remedied immediately?

Maintenance: Be sure that general maintenance requirements and, where necessary, specific maintenance criteria, such as the frequency of sediment basin cleaning, are included. Are there stockpiles of spare materials (filter fabric, straw bales, stakes, gravel, etc.) to repair damaged control measures? Routine maintenance inspections should be part of the plans.

Contingencies: The plan must provide for unforeseen field conditions, scheduling delays, and other situations that may affect the assumed conditions. For example, straw mulch may need to be installed as an emergency measure during severe summer thunderstorms, or sediment basins may need to be cleaned more frequently.

Signature: Where applicable, the erosion and sediment control plan should be signed by the preparer who shall be a qualified professional.

Technical Review: Where applicable, the erosion and sediment control plan shall be reviewed by a, certified professional in erosion and sediment control or the engineering consultant for the project.

Site assessment: Ensure that existing conditions on the site are adequately described or assessed, sufficient for the proposed measures to be evaluated.

